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Montana. Department of natural resources and conservation. Water resources division.
Draft environmental assessment Tongue River Reservoir sinkhole...

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DEPARTMENT OF NATURAL
RESOURCES AND CONSERVATION

JUDY MARTZ
GOVERNOR

DIRECTOR'S OFFICE (406) 444-2074
TELEFAX NUMBER (406) 444-2684

STATE OF MONTANA

WATER RESOURCES DIVISION (406) 444-6601
TELEFAX NUMBERS (406) 444-0533 / (406) 444-5918

48 NORTH LAST CHANCE GULCH
PO BOX 201601
HELENA, MONTANA 59620-1601

COVER LETTER

March 19, 2001

TO: Governor's Office, Ed Bartlett, Rm. 204, State Capitol, P.O. Box 200801, Helena, MT 59620-0801
Environmental Quality Council, Capitol Building, Room 106, P.O Box 201704, Helena, MT 59620
Dept. of Environmental Quality, Metcalf Building, P.O. Box 200901, Helena, MT 59620-0901
  Director's Office
Dept. of Natural Resources and Conservation, US F&G Bldg. 1625 11th Ave. Helena, MT 59620
  Director's Office
  Information Services Section
  Water Resources Division, 48 N. Last Chance Gulch, P.O. Box 201601, Helena, MT 59620-1601
Montana Fish, Wildlife & Parks, 1420 E. 6th Ave. Helena, MT 59620
  Director's Office
  FWP Region 7 Office, P.O. Box 1630, Miles City, MT 59301
MT Historical Society, State Historic Preservation Office, P.O. Box 201202 Helena, MT 59620-1202
MT State Library, 1515 E. Sixth Ave., P.O. Box 201800, Helena, MT 59620
Northern Cheyenne Tribal Council, Little Coyote Dr. P.O. Box 128, Lame Deer, MT 59043
Bighorn County Commissioners, Courthouse, 121 W. 3rd, P.O. Box 98, Harden, MT 59034
Clark Fritz, Decker Coal Company, 12 Lakeshore Dr., P.O. Box 12, Decker, MT 59025
Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Trout Unlimited, P.O. Box 7186, Missoula, MT 59807
Janet Ellis, Montana Audubon Council, P.O. Box 595, Helena, MT 59624
MT State Parks Association, P.O. Box 699, Billings, MT 59103
Northern Plains Resource Council, 2401 Montana Ave. Suite 200, Billings, MT 59626-2336
James Jensen, Montana Environmental Information Center, P.O. Box 1184, Helena, MT 59624
U.S. Army Corps of Engineers, 301 S. Park Ave. Drawer 10014, Helena, MT 59626-0014
Environmental Protection Agency, 301 S. Park Ave. Drawer 10096, Helena, MT 59625-0096
Bill Cole, U.S. Bureau of Reclamation, P.O. Box 36900, 316 N. 26th St. Billings, MT 59107-6900
U.S. Fish and Wildlife Service, MT Field Office, 100 N. Park Ave. Helena, MT 59601

Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) has been prepared for the Tongue River Reservoir Sinkhole Repair Project and is submitted for your consideration. Please feel free to contact me at (406) 444-6622, e-mail jdomino@state.mt.us, should you have any questions or comments about the project. Comments will be accepted until 5:00 p.m., April 2 2001. Comments can also be mailed to the Montana Department of Natural Resources and Conservation, State Water Projects Bureau, 48 North Last Chance Gulch, P.O. Box 201601, Helena, MT 59620-1601, attention James P. Domino. Copies of the EA are also available upon request. Thank you for your interest.

Sincerely,

James P Domino

James P. Domino
Environmental Specialist
State Water Projects Bureau

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WATER MANAGEMENT BUREAU (406) 444-6637
WATER OPERATIONS BUREAU (406) 444-0860
WATER RIGHTS BUREAU (406) 444-6610

DRAFT ENVIRONMENTAL ASSESSMENT

MEPA CHECKLIST

Part I. Proposed Action Description

1. **Type of Proposed State Action** Sinkhole repair on the west shore of Tongue River Reservoir

2. **Agency Authority for the Proposed Action**

Owner: MT Dept. of Natural Resources and Conservation; Sec. 85-1-219 (3) (1997), MCA.

3. **Name of Project** Tongue River Reservoir Sinkhole Repair

4. **Name, Address and Phone Number of Project Sponsor (if other than the agency)**

MT. Dept. of Natural Resources & Conservation, 48 N. Last Chance Gulch, P.O. Box 201601, Helena, MT 59620 – 1601 (406) 444-6646

5. **If Applicable:** Estimated Construction/Commencement Date April 2001
Estimated Completion Date May 2001
Current Status of Project Design (% complete) 25%

6. **Location Affected by Proposed Action (county, range and township)**

Bighorn County - Township 9 South, Range 40 East, SE ¼ , SW ¼ , NE ¼ , Section 3

7. **Project Size: Estimate the number of acres that would be directly affected that are currently:**

(a) Developed:
Residential .... acres
Industrial............................ acres
Open Space/ Woodlands / Recreation............... acres

(b) Wetlands/Riparian Areas................................. acres

(c) Floodplain......................... acres

(d) Productive:
Irrigated cropland .... acres
Dry cropland...................... acres
Forestry .... acres
Rangeland......................... acres
Other .... acres

(e) Other: within high pool of elevation of reservoir....9/10 acre

8. Map/site plan: attach an original 8 1/2" x 11" or larger section of the most recent USGS 7.5' series topographic map showing the location and boundaries of the area that would be affected by the proposed action. A different map scale may be substituted if more appropriate or if required by agency rule. If available, a site plan should also be attached.

Vicinity, topographic and ownership maps attached.

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9. Narrative Summary of the Proposed Action or Project including the Benefits and Purpose of the Proposed Action.

The project is being initiated to repair a five-foot square sinkhole that was discovered in March 2001 on the west side of the reservoir. The sinkhole is located in the southeast ¼ of the southwest ¼, of the northeast ¼, of section 3, township 9 south, range 40 east. The sinkhole is located on MT Department of Natural Resources and Conservation (DNRC) property. The repair is to prevent further sinkhole expansion and development. Failure to repair the sinkhole could result in increased subsurface water flows into the nearby Decker coal open mine cut, located approximately 1/8 mile west of the reservoir shore at this point. This could seriously hamper on-going coal mining efforts by Decker Coal and potentially create a public safety concern due to the possibility of subsurface erosion under State Highway 314 and the Spring Creek Railroad. Previous subsurface flows in this area have created large headcuts in the east end of the open mine cuts, and would have threatened the integrity of the Spring Creek Railroad and State Highway 314 if remedial action (i.e. construction of an alluvial dike to reduce subsurface flows) had not been taken. The mitigation of excessive seepage into the Decker coalmines is required under the provisions of the Tongue River Basin Final EIS and Record of Decision.

The proposed action involves a cut and fill operation to stabilize the affected area. Approximately four hundred cubic years of material would be removed from a 60-foot square area surrounding the sinkhole and regraded into a patch, with a new slope established that would match the pre-existing reservoir contour. A fabric filter mat would be placed over the sub-grade, with a sand and gravel filter layer placed over the fabric. The patch would then be compacted and the site reclaimed. Prior to the actual excavation of the sinkhole, a tracked excavator will be used to dig a test pit to better identify the soil substrate, the extent of the sinkhole, and to assist in refining the final design of the patch. A tracked excavator, front-end loader, backhoe, dumptruck and compactor will be the equipment used for the project. An existing maintenance access for the alluvial dike, located immediately south of the sinkhole location, would be used to access the site. The reservoir water level would be below the project area during the construction process, with all of the work performed above the water level. The sinkhole is located at elevation 3426. The reservoir water level is not anticipated to go above elevation 3420 throughout the duration of the project. The new high pool elevation of the reservoir is 3428.4. The overriding goal of this project is to maintain the highest possible level of protection for the public and to ensure that Decker Coal mining operations are not adversely affected by excessive subsurface flows. The Army Corps of Engineers (COE) and the Montana Department of Environmental Quality (DEQ) were contacted concerning the need for a 404-Permit and 318 Authorization (short-term exemption from surface water quality standards), respectively. The COE and DEQ informed the DNRC that a 404-Permit and 318 Authorization not necessary for this project. Montana Fish, Wildlife and Parks was contacted and requested that a 124-Permit be obtained for the project. The State Historic Preservation Office (SHPO), Northern Cheyenne Tribe (NCT) and U.S. Bureau of Reclamation (BOR) were also informed of the project.

10. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.

(a) Permits:

Agency Name	Permit	Date Filed/#
MT Dept. of Fish, Wildlife & Parks	124	pending
MT State Historic Preservation Office	Cultural Clearance	pending

10. (Continued)

(b) Funding:

Agency Name	Funding Amount

Cost tentatively to be shared between MT Dept. of Natural Resources and Conservation, Northern Cheyenne Tribe and U.S. Bureau of Reclamation - total estimated cost - $10,000

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility
N/A	

11. List of Agencies Consulted during Preparation of the EA:

MT Dept. of Natural Resources and Conservation

MT Dept. of Environmental Quality

MT Dept. of Fish, Wildlife & Parks

MT State Historic Preservation Office

Northern Cheyenne Tribe

U.S. Army Corps of Engineers

U.S. Bureau of Reclamation

Part II. Environmental Checklist Review

1. PHYSICAL ENVIRONMENT

	IMPACTS					
	Unknown *	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
1. LAND RESOURCES Will the proposed action result in:						
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?			X			1b.
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X			1d.
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other: ____________						

1 b & d.) Site disturbance would occur within the high pool elevation of the reservoir during construction. Some soil compaction may occur due to heavy equipment operation. Approximately 400 cubic yards of soil would be removed for the test pit and patch excavation. The excavated material would be replaced back into the excavation after the placement of a sand, gravel and fabric liner. The disturbed area would be regraded to the pre-existing reservoir contour. Any disturbed area would be reclaimed. Effects would be minor in the short-term due to all of the work being accomplished above the water level and the relatively small area involved with the construction of the patch. Effects are negligible in the long-term because of reclamation of all areas disturbed during construction.

PHYSICAL ENVIRONMENT
(Continued)

IMPACTS

2. AIR	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
Will the proposed action result in:						
a. Emission of air pollutants or deterioration of ambient air quality?			X			2a
b. Creation of objectionable odors?			X			2b
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Other: ___________						

2 a. & b.) During construction, heavy equipment emissions will contain some pollutants and odors.

PHYSICAL ENVIRONMENT

IMPACTS

3. WATER Will the proposed action result in:	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X			3a
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the qualify of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in the risk of contamination of surface or groundwater?		X				
i. Violation of the Montana Non-Degradation Statute?		X				
j. Effects on any existing water right or reservation?		X				
k. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
l. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
m. Other: ___________						

3a.) Short-term, temporary, non-significant impacts to reservoir water quality may occur due to possible increases in turbidity during construction. The effects would be minimized by all of work being performed above the water level and the reclamation of the disturbed area back to the original reservoir contour. Long-term impacts are negligible.

PHYSICAL ENVIRONMENT
(Continued)

IMPACTS

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be mitigated*	Comment Index
4. VEGETATION Will the proposed action result in:						
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered plant species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?			X			4e
f. Other: ___________						

4 a.) Some vegetation may be removed to allow for equipment access to the site. The effects would be minor, non-significant and negligible due to the use of the existing dike maintenance access, and the reclamation and reseeding of any disturbed areas.

4 e.) An increase in noxious weeds may occur due to soil disturbance and equipment operation. Effects are negligible in the long-term because of reclamation and weed control implementation.

PHYSICAL ENVIRONMENT
(Continued)

IMPACTS

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
5. FISH/WILDLIFE						
Will the proposed action result in:						
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				5f
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X			5g
h. Other: ____________						

5 f.) A file search conducted by the Montana Natural Heritage Program indicated that no known threatened, endangered or species of special concern exist in the project area. No threatened, endangered or species of special concern were observed during several site visits by a wildlife biologist from the Decker Coal Company and DNRC staff.

5 g.) The temporary increase in activity and human presence associated with the construction activity may create an increase in stressful conditions for some local wildlife. The effects would be minor due to the small land area affected and would end with the completion of the project.

2. HUMAN ENVIRONMENT

IMPACTS

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
6. NOISE/ELECTRICAL EFFECTS						
Will the proposed action result in:						
a. Increases in existing noise levels?			X			6a
b. Exposure of people to severe or nuisance noise levels?			X			6b
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other: ___________						

6 a & b.) Noise levels will increase temporarily during the construction period.

HUMAN ENVIRONMENT
(Continued)

IMPACTS

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
7. LAND USE						
Will the proposed action result in:						
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				
e. An increase in government regulatory restrictions on private property.		X				
f. Other: ___________						

HUMAN ENVIRONMENT
(Continued)

	IMPACTS					
	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
8. RISK/HEALTH HAZARDS						
Will the proposed action result in:						
a. Risk of an explosion or release of hazardous substances (including but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Other: ___________						

HUMAN ENVIRONMENT
(Continued)

IMPACTS

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
9. COMMUNITY IMPACTS						
Will the proposed action result in:						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
f. Other: ___________						

HUMAN ENVIRONMENT
(Continued)

	IMPACTS					
	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
10. PUBLIC SERVICES/ TAXES/UTILITIES						
Will the proposed action:						
a. Have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: parks/recreational facilities		X				
b. Have an effect upon the local or state tax base and revenues?		X				
c. Result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Result in increased use of any energy source?		X				
e. Other: ___________						

HUMAN ENVIRONMENT
(Continued)

IMPACTS

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
11. AESTHETICS/ RECREATION						
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X			11a
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational opportunities and settings?			X			11c
d. Other: ___________						

11 a & c.) Construction will temporarily affect the aesthetics of the area in the short-term. Some anglers and picnickers or campers may be impacted. The quality of the recreational opportunities and setting will be temporarily impacted during construction. The effects will be non-significant, minor, short-term and end with the completion of the project.

IMPACTS

HUMAN ENVIRONMENT
(Continued)

	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
12. CULTURAL/ HISTORICAL RESOURCES						
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?	X					12a
b. Physical change that would affect unique cultural values?	X					12b
c. Effects on existing religious or sacred uses of a site or area?	X					12c
d. Other: ___________						

12 a,b & c.) Cultural clearance will be obtained from the MT State Historic Preservation Office (SHPO) prior to any construction activity. Comments and recommendations from the SHPO will be incorporated into the final EA draft. It is not anticipated that any historic or cultural resources would be impacted by the proposed project.

3. SIGNIFICANCE CRITERIA

IMPACTS

13. SUMMARY EVALUATION OF SIGNIFICANCE	Unknown*	No Significant Impacts	Minor Impacts*	Potentially Significant Impacts*	Can Impacts be Mitigated*	Comment Index
Will the proposed action, considered as a whole:						
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)			X			13a
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. Other: ___________						

13 a.) Short-term, temporary, non-significant impacts could occur in the quality of the recreational opportunities and experience. Short-term, minor, temporary, non-significant increases in turbidity may occur; however, the short and long term effects are negligible and would be mitigated by all of the work being performed above the water level and the reclamation of all disturbed areas back to their original contours. No adverse impacts are anticipated as a result of this project. All impacts are temporary, will end with the completion of the project, and/or will be mitigated by reclamation, reseeding and revegetation of the project area, and the implementation of weed control measures.

Part III. Alternatives and Evaluation

1. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

A. No action - Would result in continued development and potential enlargement of the sinkhole. This could affect the ability of Decker Coal to mine coal in the open cuts to the west of the sinkhole location, and potentially cause subsurface erosion that could impact the integrity of State Highway 314 and the Spring Creek Railroad. This would greatly increase the risk to public safety. The State would also not be meeting it's legal obligations to mitigate excessive seepage into the Decker coalmines, as required under the Tongue River Basin project EIS and Record of Decision.

B. Proceed as planned with the project - This will have the beneficial effects of stopping the sinkhole development and protecting the integrity of Decker's ability to mine coal, State Highway 314 and the Spring Creek Railroad. This would address any public safety concerns associated with the further development of the sinkhole, and fulfill the State's legal obligation to mitigate seepage into the Decker coalmines.

2. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

All impacts cited are non-significant, temporary and minor. Any areas disturbed by the construction would be reclaimed.

3. Based on the significance criteria evaluated in this EA, is an EIS required? YES / [✓ NO] If an EIS is not required, explain why.

The EA is the appropriate level of analysis for this proposed action.

Because of the short-term nature of the actual construction impacts associated with this project and the beneficial, long-term affects to public safety and the need to mitigate excessive seepage into the Decker coalmines, an EA is the appropriate level of analysis for this proposed action.

4. Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?

The appropriate level of public involvement for this proposal is the publication of the proposed action in the Helena Independent Record and local Sheridan, Wyoming newspaper for one week in the legal notices section of each newspaper. This is an appropriate level of public involvement considering the minor, non-significant impacts of the environmental issues associated with the proposed action, and the public safety issues being addressed by the proposed repair.

5. Duration of comment period if any: Copies of the EA can be obtained from the address listed below. Comments will be accepted until 5:00 p.m., Monday, April 2 2001 and should be submitted to DNRC at the postal address, e-mail address or telephone number listed below.

6. Name, title, addresses and telephone number of the Person(s) Responsible for Preparing the EA:

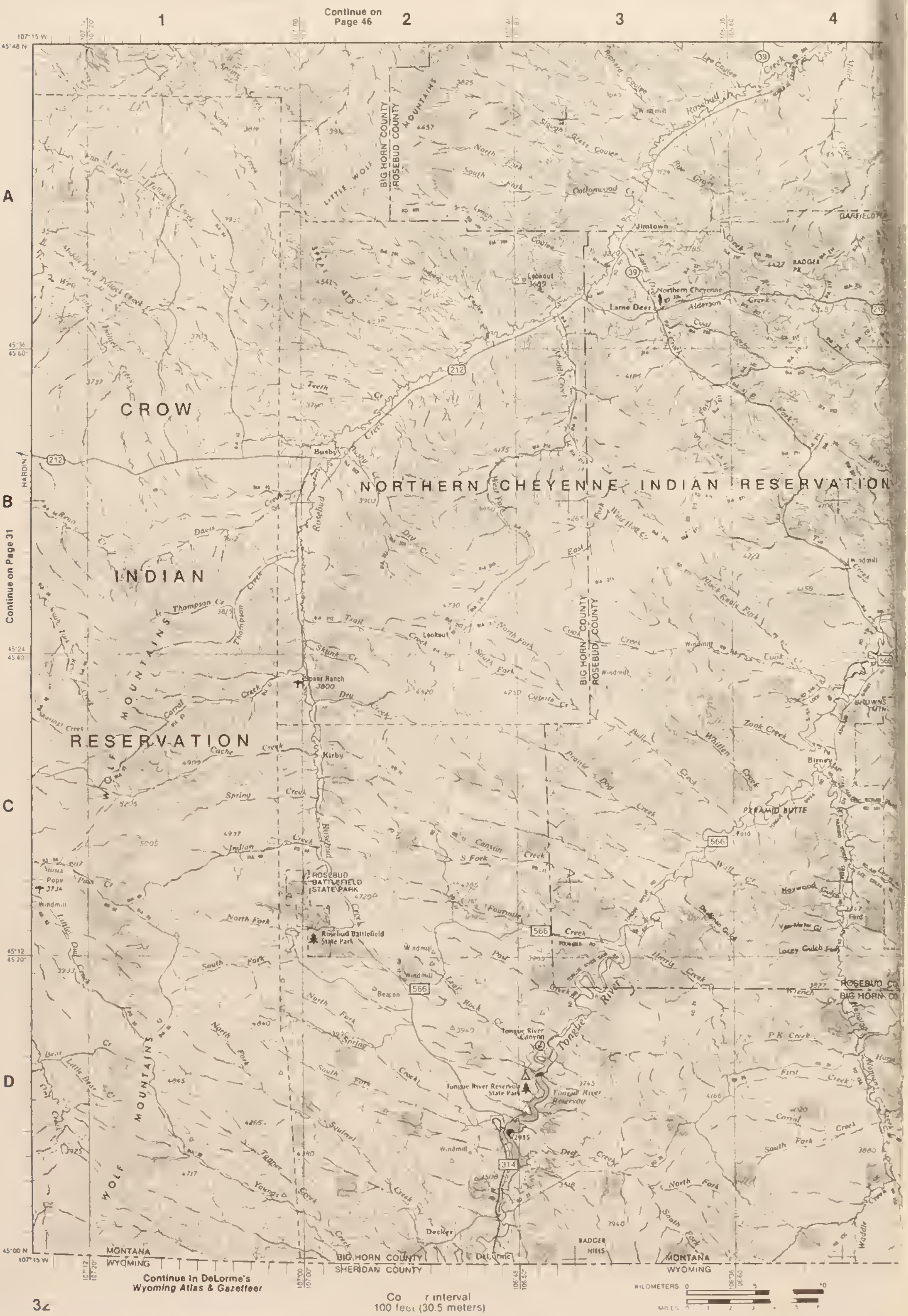
James P. Domino, Environmental Specialist, Department of Natural Resources and Conservation, Water Resources Division, State Water Projects Bureau, 48 N. Last Chance Gulch, P.O. Box 201601, Helena, MT 59620-1601, (406) 444-6622 e-mail – jdomino@state.mt.us

Part IV. Narrative Evaluation and Comment

The project as proposed will not have any significant impacts. The impacts associated with the actual construction will be short-term and end with the completion of the project. Potential impacts to flora, fauna, turbidity, weed proliferation, and the quality of the recreational experience will be mitigated by reclamation, weed control efforts, and all work being performed above the water level. No impacts to cultural or historic resources are anticipated. The long-term public safety benefits and the need to mitigate excessive seepage into the Decker coalmines as required by the Tongue River Basin Project EIS and Record of Decision outweigh any non-significant, short-term, minor and temporary negative impacts.

Continue on Page 46

Continue on Page 31



Continue in DeLorme's *Wyoming Atlas & Gazetteer*

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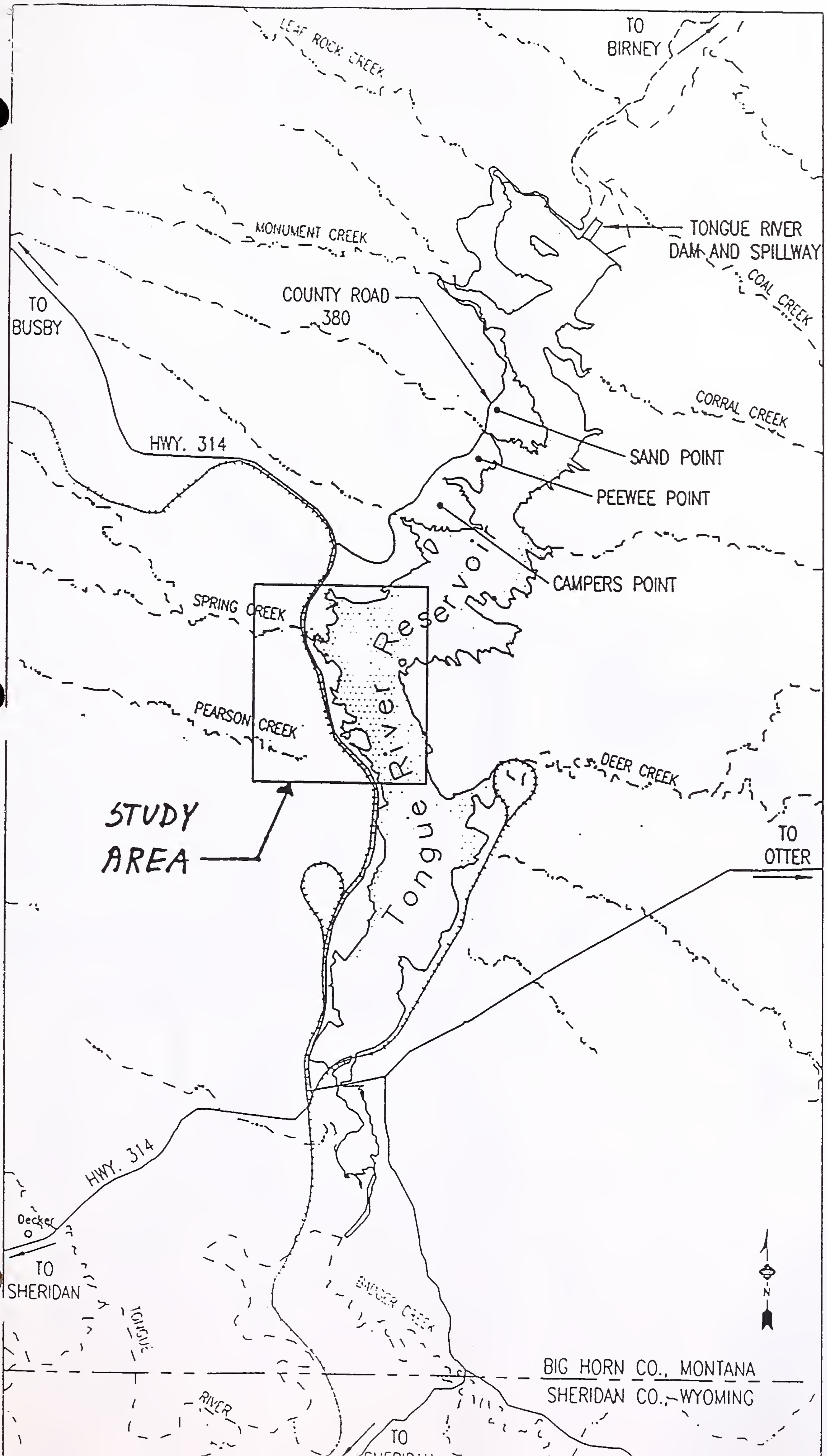
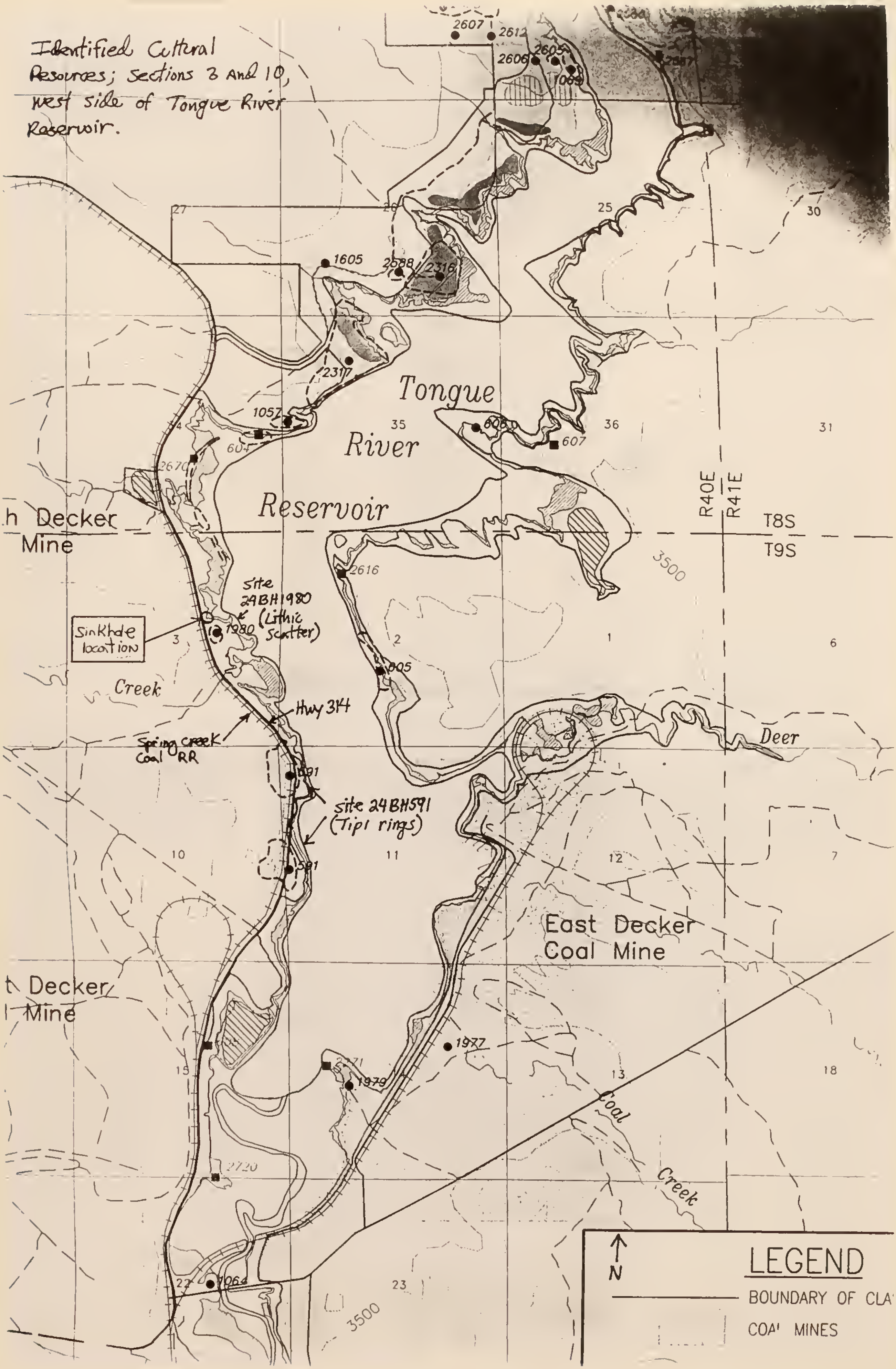


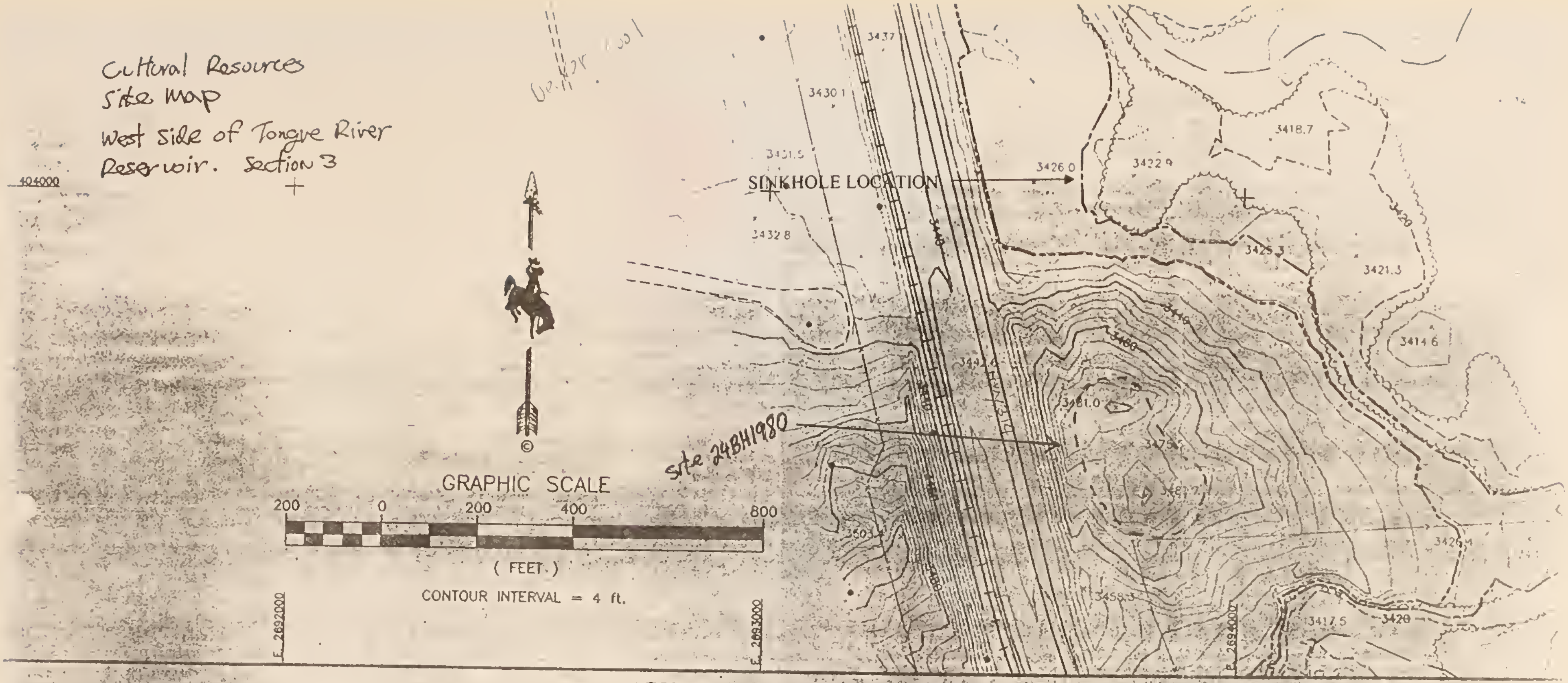
SITE MAP

(NOT TO SCALE)

Identified Cultural Resources; Sections 3 And 10, west side of Tongue River Reservoir.



Cultural Resources
Site Map
West Side of Tongue River
Reservoir. Section 3



LEGEND

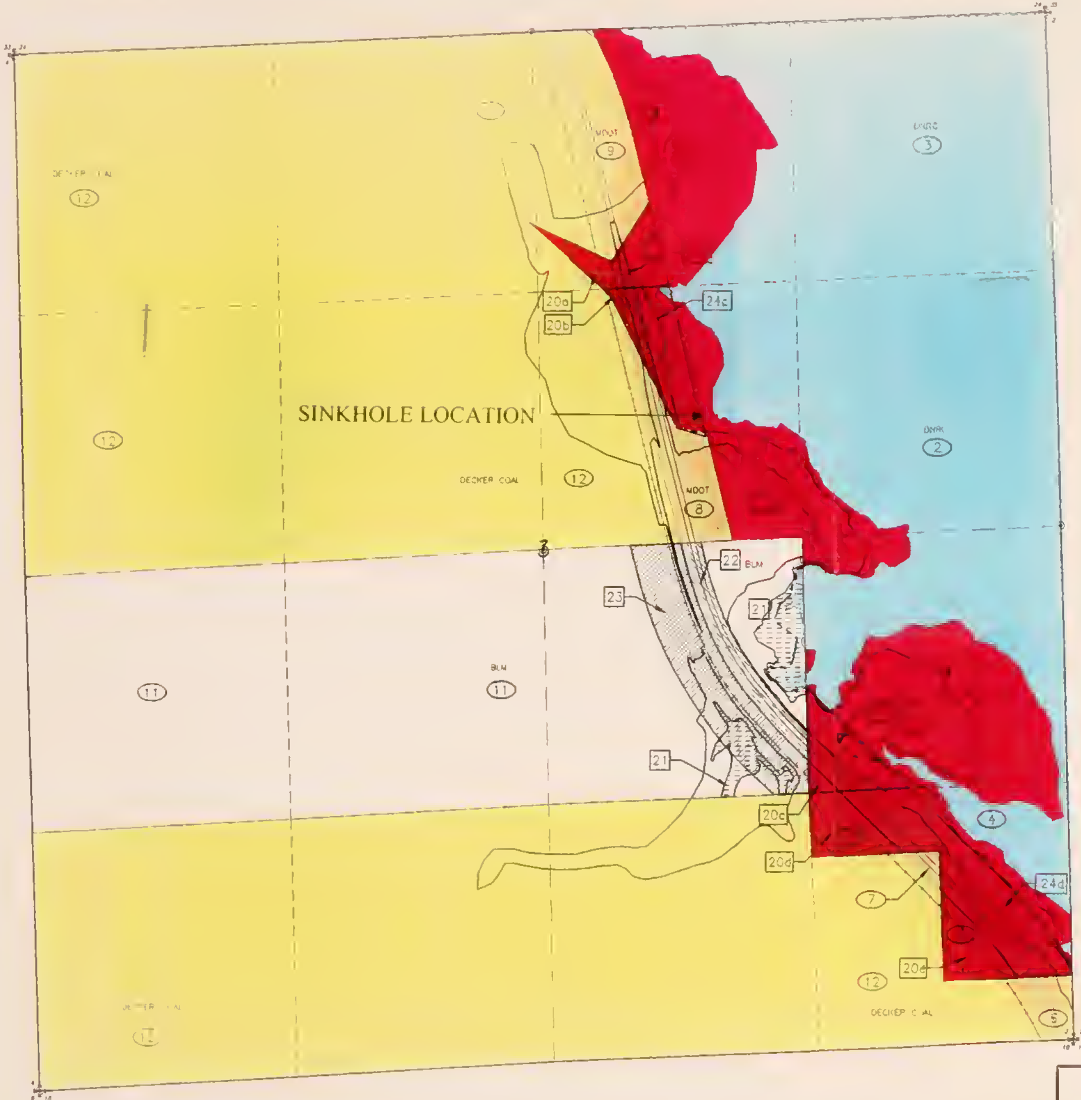
PAVED ROAD
GRAVEL ROAD
DRIVEWAY
RAILROAD
GRAVEL PARKING
TRAIL
GRAVEL SHOULDER
GUARDRAIL
BRIDGE
CULVERT
DRAINAGE LINE
STREAM
WASH
WING WALL – BRIDGE

WING WALL – CULVERT
TREE
TREE COVER
SWAMP
HEDGE
FENCE
CATTLE GUARD
PIPELINE
BUILDING–ROOFLINE
BUILDING FOUNDATION
UNIDENTIFIED STRUCTURE
CONCRETE SLAB
WALL

POST
POLE
COMMUNICATION TOWER
ROCK OUTCROP
3460 INDEX CONTOUR
INTERMEDIATE CONTOUR
DEPRESSION CONTOUR
OBSCURED CONTOUR
1019.6 SPOT ELEVATION
HORIZONTAL CONTROL
HORZ/VERT CONTROL (1995)
NEW PERMANENT BENCHMARK (1995)
SECTION CORNER

PROPOSED ROAD CONSTRUCTION (1996)
DEAD STORAGE WATER LINE (EL 3374.4)
PRE-REHABILITATION HIGH WATER LINE (EL 3424.4)
POST-REHABILITATION HIGH WATER LINE (EL 3428.4

Lithic scatter site boundary
site #24BH1980



OWNERSHIP AND EASEMENT DATA

OWNERSHIP REF. NO.	CURRENT OWNER	PREVIOUS OWNER	INSTRUMENT	DATE	BOOK/PAGE DOC.#	LAYER REF.
1	DNRC	LEE	WARRANTY DEED	5/7/38	BK 23 PG 173 #81074	DNRC_0_03_01
2	DNRC	COOK	WARRANTY DEED	5/14/38	BK.23 PG 193 #81179	DNRC_0_03_02
3	DNRC	ANDERSON	WARRANTY DEED	5/7/38	BK 23 PG 200 #81073	DNRC_0_03_03
4	DNRC	PERSON	WARRANTY DEED	5/12/37	BK 23 PG 217 #81173	DNRC_0_03_04
5	DNRC	PERSON	WARRANTY DEED	5/12/38	BK 23 PG 218 #81174	DNRC_0_03_05
6	MDOT	DECKER COAL	BARGAIN/SALE DEED	2/6/81	BK 30 PG.304 #270472	MDOT_0_03_01
7	MDOT	DECKER COAL	BARGAIN/SALE DEED	2/6/81	BK 30 PG 307 #270473	MDOT_0_03_02
8	MDOT	DECKER COAL	BARGAIN/SALE DEED	2/6/81	BK 30 PG 310 #270474	MDOT_0_03_03
9	MDOT	DECKER COAL	BARGAIN/SALE DEED	2/6/81	BK 30 PG.313 #270475	MDOT_0_03_04
10a	DNRC	DECKER COAL	QUIT CLAIM DEED	5/9/96	BK P35MFII PG 99 #313124	DNRC_0_PF_03_01
10b	DNRC	DECKER COAL	QUIT CLAIM DEED	5/9/96	BK P35MFII PG 99 #313124	DNRC_0_PF_03_02
11	BLM	_	PLAT MAP	_	SEE 940_03 FILE	BLM_0_03_01
12	DECKER COAL	_	PLAT MAP	_	SEE 940_03 FILE	DECKER_0_03_01
13						
14						
15						
16						
17						
18						

EASEMENTS REF. NO.	GRANTOR	GRANTEE	INSTRUMENT	DATE	BOOK/PAGE/DOC.#	LAYER REF.
20a	DNRC	SPRING CREEK COAL	R O W EASEMENT	5/7/79	SEE 940_03 FILE	DNRC_E_SP_03_04
20b	DNRC	SPRING CREEK COAL	R O W EASEMENT	5/7/79	SEE 940_03 FILE	DNRC_E_SP_03_05
20c	DNRC	SPRING CREEK COAL	R O W EASEMENT	5/7/79	SEE 940_03 FILE	DNRC_E_SP_03_06
20d	DNRC	SPRING CREEK COAL	R O W EASEMENT	5/7/79	SEE 940_03 FILE	DNRC_E_SP_03_07
20e	DNRC	SPRING CREEK COAL	R O W EASEMENT	5/7/79	SEE 940_03 FILE	DNRC_E_SP_03_08
21	BLM	DNRC	FLOOD EASEMENT	7/7/98	MTM-87571	BLM_E_FL_03_01
22	BLM	SPRING CREEK COAL	PER BLM RECORDS	_	SEE 940_03 FILE	BLM_E_SP_03_01
23	BLM	MDOT	PER BLM RECORDS	_	SEE 940_03 FILE	BLM_E_MDOT_03_01
24a	MDOT	SPRING CREEK COAL	R O W EASEMENT	8/10/79	BK 24 PG.130 #264151	DNRC_E_MDOT_03_10A
24b	MDOT	SPRING CREEK COAL	R O W EASEMENT	8/10/79	BK 24 PG.130 #264151	DNRC_E_MDOT_03_15
24c	MDOT	SPRING CREEK COAL	R O W EASEMENT	8/10/79	BK 24 PG 130 #264151	DNRC_E_MDOT_03_14A
24d	MDOT	SPRING CREEK COAL	R O W EASEMENT	8/10/79	BK 24 PG 130 #264151	DNRC_E_MDOT_03_09
25						
26						
27						

LEGEND

①	OWNERSHIP REFERENCE NUMBER - SEE DATA ABOVE
20	EASEMENT REFERENCE NUMBER - SEE DATA ABOVE
═	PAVED ROAD
= = =	GRAVEL ROAD
┼┼┼	RAILROAD
─	3440.0 WATER ELEVATION
─ - ─	POST-REHABILITATION HIGH WATER LINE (EL 3426.4)
🟦	PRE-REHABILITATION HIGH WATER LINE (EL 3424.4)
▧	EASEMENTS FOR MONTANA HIGHWAY AND/OR COUNTY ROAD
▨	EASEMENTS FOR RAILROADS AND/OR POWER LINES AND UTILITIES
▤	FLOOD EASEMENTS FOR STATE PROJECT
🟥	DNRC (STATE PROJECT LANDS)
🟧	MONTANA DEPT OF TRANSPORTATION
🟨	DECKER COAL
⬜	BLM

NOTES 1 NOT ALL SECTION LINES AND CORNERS SHOWN HAVE BEEN SURVEYED IN THE FIELD
2 OWNERSHIP BOUNDARIES AND EASEMENT LINES ARE BASED ON RECORDED LEGAL DESCRIPTIONS AND MAY NOT HAVE BEEN SURVEYED IN THE FIELD

SCALE 1" = 600'

SHEET 27

MONTANA DNRC
TONGUE RIVER DAM REHAB. PROJECT
OWNERSHIP AND EASEMENTS
SECTION 3
T.9S. R.40E.

REVISIONS	
Date	By
11-3-97	TCF/MWC
12-14-98	TCF/MWC

WWC ENGINEERING
A DIVISION OF WESTERN WATER CONSULTANTS, INC.
• CIVIL - MINING - CONSTRUCTION ENGINEERING •

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(307) 473-2707

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SHERIDAN, WY 82801
(307) 672-0761

1901 ENERGY CT
SUITE 270
GILLETTE, WY 82718
(307) 682-1880

FILE 940_03 | Drawn By TCF | Checked By TC | Date 8-15-97 | Scale 1" = 600

ACCO® USA
WHEELING, ILLINOIS 60090
ITEM NO. 25978
MADE IN USA
0 50505 25978 6
RED/ROUGE/ROJO